

Application No. 10/591,859
Amendment dated January 28, 2008
Reply to Office Action of September 27, 2007

Docket No.: 1380-0229PLUS1

AMENDMENTS TO THE CLAIMS

1-13 (Canceled)

14. (new) A floating structure for a loading buoy or wellhead platform, comprising a surface element with a substantially rounded cross section in a substantially horizontal plane, columns connecting the surface element to a submerged pontoon element which in a substantially horizontal plane has a substantially rounded external perimeter and a draught in the body of water, mooring devices for securing the structure to the seabed and at least one attachment point for transfer pipelines to a second unit, the surface element is arranged floating in the water plane surface, with a draught in the body of water, and that the proportion of the volume of the pontoon element divided by the waterline area of the surface element is in the range 4-12 [m^3/m^2], and that the draught of the surface element divided by the draught of the pontoon element is in the range 0.3-0.5 and that the mooring devices have a vertical mooring rigidity for the loading buoy in the range 20-75% of the waterline rigidity for the structure.

15. (new) A floating structure according to claim 1, wherein it is a loading buoy comprising attachment point for transfer pipelines from a production/processing/storage unit to the loading buoy and mooring and transfer devices for transferring fluid from the loading buoy to a loading/unloading vessel and the proportion of the volume of the pontoon element divided by the waterline area of the surface element is in the range 4-7 [m^3/m^2], and the draught of the surface element divided by the draught of the pontoon element is in the range 0.31-0.43 and where the vertical mooring rigidity for the loading buoy is over 50% of the water plane rigidity for the structure.

16. (new) A floating structure according to claim 1, wherein it is a loading buoy comprising attachment point for transfer pipelines from a production/processing/storage unit to the loading buoy and mooring and transfer devices for transferring fluid from the loading buoy to a loading/unloading vessel and the proportion of the volume of the pontoon element divided by the waterline area of the surface element is approximately 6 [m^3/m^2], and the draught of the

Application No. 10/591,859
Amendment dated January 28, 2008
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Docket No.: 1380-0229PUS1

surface element divided by the draught of the pontoon element is in the range 0.31-0.43 and where the vertical mooring rigidity for the loading buoy is over 50% of the water plane rigidity for the structure.

17. (new) A floating structure according to claim 15 or 16, wherein the transfer pipeline from the loading buoy to the production/processing/storage unit and the loading/unloading unit extends as catenaries from the loading buoy.

18. (new) A floating structure according to claim 15 or 16, wherein the transfer pipeline from the loading buoy to the production/processing/storage unit or the loading/unloading unit extends as catenaries from the loading buoy.

19. (new) A floating structure according to claim 15 or 16, wherein the production/processing/storage unit is composed of a second floating unit.

20. (new) A floating structure according to claim 14, wherein the surface unit comprises a rotatable deck element for varying orientation of mooring and transfer devices for transfer of fluid.

21. (new) A floating structure according to claim 14, wherein it is in the form of a wellhead platform comprising attachment and wellhead arrangements for at least one rigid substantially vertical riser extending from a well and at least one attachment point for a transfer pipeline from the wellhead platform to a second unit, where the proportion of the volume of the pontoon element divided by the waterline area of the surface element is in the range 6-12 [m^3/m^2], and the draught of the surface element divided by the draught of the pontoon element is in the range 0.4-0.5 and where the vertical mooring rigidity for the loading buoy is in the range 20-50% of the water plane rigidity for the structure.

22. (new) A floating structure according to claim 14, wherein it is in the form of a wellhead platform comprising attachment and wellhead arrangements for at least one rigid substantially vertical riser extending from a well and at least one attachment point for a transfer

Application No. 10/591,859
Amendment dated January 28, 2008
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Docket No.: 1380-0229PLUS1

pipeline from the wellhead platform to a second unit, where the proportion of the volume of the pontoon element divided by the waterline area of the surface element is in the range 10-12 [m^3/m^2], and the draught of the surface element divided by the draught of the pontoon element is in the range 0.4-0.5 and where the vertical mooring rigidity for the loading buoy is in the range 20-50% of the water plane rigidity for the structure.

23. (new) A floating structure according to claim 21 or 22, wherein it comprises processing equipment.

24. (new) A floating structure according to claim 14, wherein the columns exert little influence on the structure's pattern of movement, being composed of trusswork.

25. (new) A floating structure according to claim 14, wherein the columns exert little influence on the structure's pattern of movement, being composed of completely or partly closed elements.

26. (new) A floating structure according to claim 14, wherein the columns at least partly form buoyancy elements.

27. (new) A floating structure according to claim 14, wherein the surface element has a substantially cylindrical shape or alternatively an annular shape with a centre axis substantially vertically oriented.

28. (new) A floating structure according to claim 14, wherein the pontoon element is composed of an octagonal annular pontoon with an outer average diameter.

29. (new) A floating structure according to claim 14, 15, 16 or 27, wherein the pontoon element is composed of an octagonal annular pontoon with an outer average diameter and the proportion between a diameter of the surface element divided by the average diameter of the annular pontoon is in the range 0.7.

Application No. 10/591,859
Amendment dated January 28, 2008
Reply to Office Action of September 27, 2007

Docket No.: I380-0229PUS1

30. (new) A floating structure according to claim 14, wherein the surface element has a proportion between draught divided by total height approximately equal to 0.75.